



**AF / XOCA**

Modeling and Simulation Policy Division

**Foundations '02**

**22-23 October 2002**

# **Technical Session T7**

## **Department of the Air Force Verification, Validation, and Accreditation (VV&A) Policy and Standards**

***Presented by:***

**Sam Johnson**

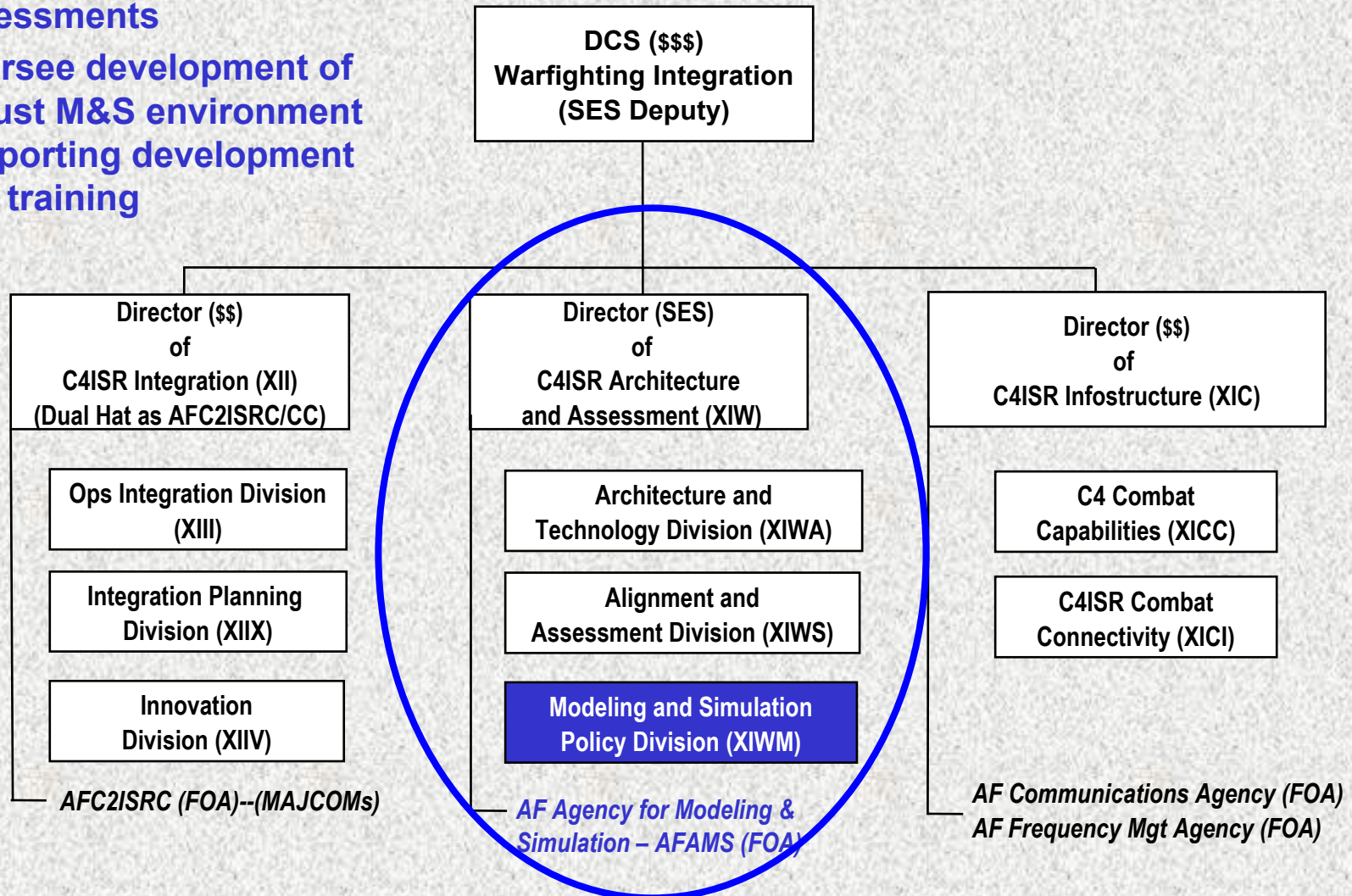
AF/XIWM

Air Force M&S Policy Division

- **Air Force M&S organizations**
- **Air Force VV&A Policy**
  - Tailoring and Tiering
- **Current Issues**
- **Future**



- Maintain C4ISR architecture
- Make capability assessments
- Oversee development of robust M&S environment supporting development and training





**XIWM Div Chief- Col Bradbury**  
**Deputy - Lt Col Bullock-Cassine**

**Chief, Space M&S – Maj Stearns-Boles**  
**Chief, Test & Evaluation Support – Maj Hedgepeth**  
**Chief, Analytic Modernization - vacant**  
**Chief, M&S Training - Maj Hughes**  
**M&S Policy for Joint Synthetic Battlespace - Mr. Murray**  
**M&S Architecture - Mr. Johnson**  
**SETA - Mr. Hambleton**  
**SETA - vacant**  
**DRAC - Dr. Bennett**

**Modeling**  
**(FOA)**  
**FAMS**

**Archit**  
**and Tec**

**and**  
**nt**  
**XIWS**



**Under Revision**

**Modeling & Simulation**  
**AFPD 16-10 [1995]**

**V V & A**  
**AFI 16-1001 [1996]**

~~**Data Standards**~~  
~~**AFI 16-1002**~~

~~**Model Mgmt**~~  
~~**AFI 16-1003**~~

**M&S in Acquisition**  
**AFI 16-100x**

**M&S Support to Acquisition**  
**AFI 16-1002 [2000]**

**M&S Support to T/E**  
**AFI 16-1003 ["signed"]**

**M&S Threat Validation**  
**AFI 16-1004 [In Coord]**

**M&S Supporting ...**  
**AFI 16-10xx**

**We've moved to a  
"functional" approach  
to M&S policy**

**Address issues unique  
to each community**

- **3.3. The Secretariat (SAF), Air Staff (HQ USAF), major commands (MAJCOM), field operating agencies (FOA), direct reporting units (DRU) will:**
  - 3.3.1. Require Air Force-owned models be accredited for the intended purpose in accordance with AFI 16-1001 *Verification, Validation, and Accreditation* in all studies, analyses (e.g., COEAs), and training exercises.
- **VV&A**
  - 3.3.4
  - 7
- **V&V**
  - 3.3.6



- **Applicable to all Air Force-owned, AF-used M&S**
- **Defines roles, minimum responsibilities for**
  - HQ USAF,
  - MAJCOMS, FOAS, DRUs,
  - V&V Manager
  - Accreditation Authority, and
  - Accreditation, V&V Agents
- **Establishes Minimum V&V report requirements**
- **Establishes VV&A process especially designed to build V&V history for legacy simulations**

- **Aids Program Manager in incorporating M&S into program**
- **VV&A**
  - 4.2.3 (General)
- **V&V**
  - 6.2 (Intelligence)
- **Accreditation**
  - 10.9 (PM's responsibility)
  - 13 (Operating Commands/Agencies responsibilities)



- ...so nearly published
- Major purpose 3.3 Directing test organizations to work together with the authoritative validation agent during development and life-cycle support to adhere to a validation process that will support the accreditation decision.
- 4.1 V&V is an integral part of M&S planning to support T&E
- VV&A references
  - 3.3, 4.1, 4.1.2, 4.1.3, 4.3.1, 8.6, 8.9, 9.5, 10.2, 10.9, 11.3, 11.4, 11.5, 11.6, 13.5

- Beginning coordination
- Encompasses all types of foreign force representations, including hardware simulators, digital and hybrid simulations, actual threat systems, surrogates, targets and threat portions of aircrew training devices (ATDs)
- Air Force Information Warfare Center (AFIWC) – validation agents for ATDs
- National Air Intelligence Center (NAIC) Threat Representation & Validation Office – all other threat M&S

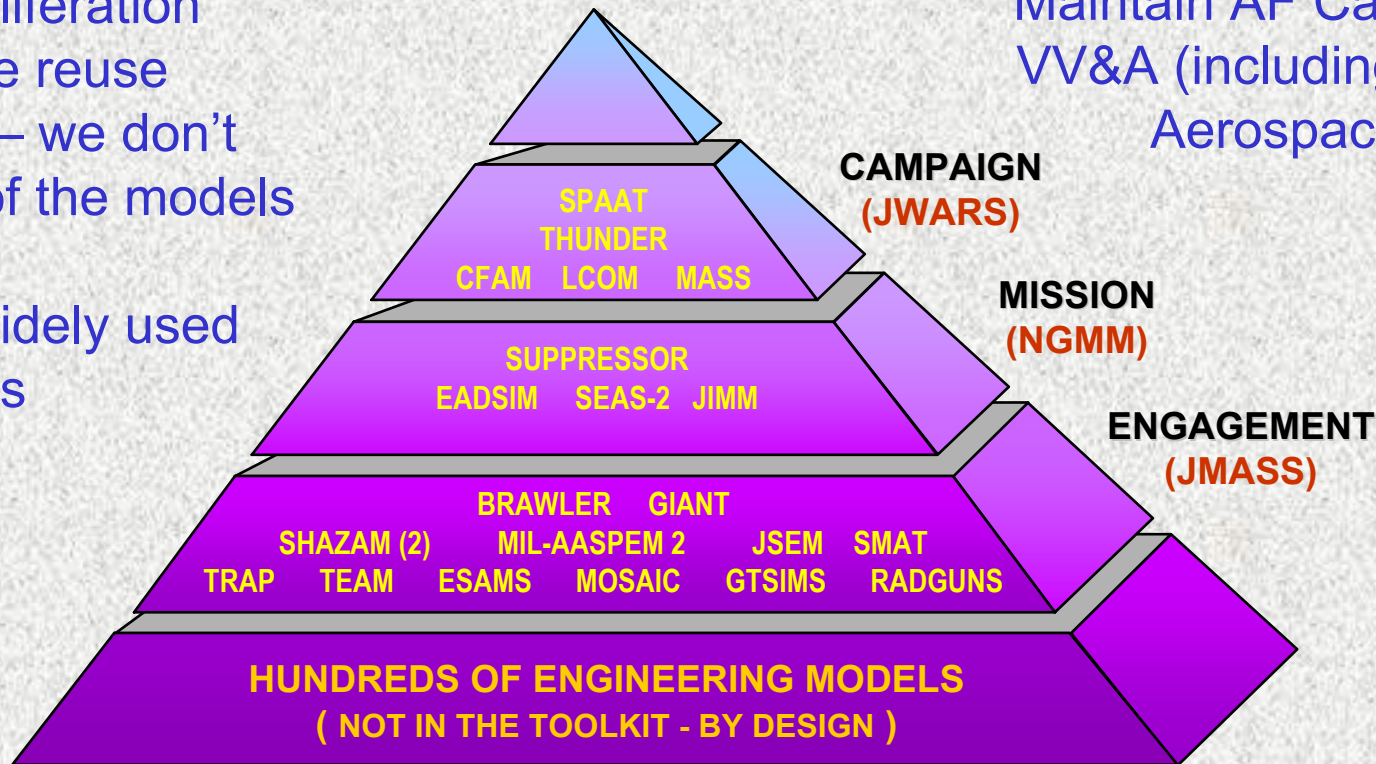


## Policy Implementation

- Approach to address model proliferation
- Encourage reuse
- Influence – we don't own any of the models in AFSAT
- Unique, widely used capabilities

## Issues

J-Models IOC/FOC  
Maintain AF Capability  
VV&A (including Data)  
Aerospace Gaps



Requirements

Acquisition

Test & Evaluation

- **1. Introduction**
  - Document Description
- **2. Capability**
  - Model Description
  - Functional Capabilities
  - Development History
  - Assumptions, Limitations, and Errors
- **3. Accuracy**
  - Software Accuracy (Verification)
  - Data Accuracy (Input and Embedded Data)
  - Output Accuracy (Validation)
- **4. Usability**
  - Documentation Assessment
  - Usage History
  - Management
  - User Support
  - Version Description
- **5. Implications for Model Use**
- **Developed with JASA**
  - Tailored from policy, AFSAT entry criteria, Model Managers



- **VV&A personnel**
  - 703-588-5061, DSN 425
- **Accreditation**
  - Experimentation
  - Chem-Bio
  - In general

- **Update to AFRPD**
- **Update, expand AFI 16-1001 to address M&S configuration management**
- **Web-enable ASP**
- **Interact with DoD Components**